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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,555	10/05/2000	Harry Hvostov	ST00-S0027 (850063.581)	2174

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EXAMINER
LEE, PHILIP C

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/684,555	HVOSTOV ET AL.
	Examiner	Art Unit	
	Philip C. Lee	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>13 June 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-24</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1. This action is responsive to the amendment and remarks filed on June 13, 2005.

2. Claims 1-24 are presented for examination.

3. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections – 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-11 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al, U.S. Patent Application Publication 2005/0015775 (hereinafter Russell) in view of Dievendorff et al, U.S. Patent 6,425,017 (hereinafter Dievendorff).

6. As per claim 1, Russell taught the invention substantially as claimed for facilitating client-server communications internal to a network device, comprising:

providing the network device with server components and configuring the server

components to implement a set of functionality set (page 2, paragraph 11);

providing the server components with a set of interface method for initiating execution of

the functions, wherein the set of interface method correspond to the set of functions (page

9, paragraphs 87-88);

providing a client component with references to the interface method (page 16,

paragraphs 145-146), wherein the client component indirectly invokes one of the

interface methods by requesting that an interface manager invoke the interface method on

behalf of the client component (page 9, paragraph 91; page 17, paragraphs 151-152; page

22, paragraph 190), and wherein the server components, client component, and interface

manager execute within the network device (i.e. within server computer 84) (page 10,

paragraph 93; fig. 3);

sending client component requests to the interface manager (page 9, paragraph 91; page

17, paragraphs 151-152; page 21, paragraphs 187-188), wherein each request includes a

reference and a function parameter (page 16, paragraph 145);

processing the client component requests by invoking the interface method of the server

component corresponding to the reference included in the request (page 16, paragraphs

145-146), and passing the function parameter to the server component (page 16,

paragraph 148-page 17, paragraph 149); and

providing a response message regarding the execution of the interface method to the

client component, wherein the response message comprises a status (page 28, paragraph

239; table 2).

7.   Russell did not teach communication via a message queue. Dievendorff taught a similar

system comprising:

>   sending client component requests to server components via a first message queue (col. 4,
>
>   lines 2-10; col. 12, line 61-col. 13, line 10; col. 15, lines 56-63); and
>
>   providing a response message regarding the execution of the interface method to the
>
>   client component via a second message queue, wherein the response message comprises a
>
>   status (col. 4, lines 2-10; col. 12, line 61-col. 13, line 10; col. 15, lines 56-63).

8.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Russell and Dievendorff because Dievendorff's

teaching of communication via a message queue would increase the flexibility of Russell's

system by allowing messages to be sent to a message queue for processing by the server

application at a later time, thus the client and server applications need not be available

simultaneously. (col.4, lines 1-10).

9.   As per claim 5, Russell taught the invention substantially as claimed for network device

subsystem operations, comprising:

>   implementing a first component in the network device, the first component having
>
>   functions and function pointers corresponding to the functions (page 2, paragraph 11);
>
>   implementing a second component in the network device, the second component having
>
>   references to the function pointers of the first component (page 16, paragraphs 145-146),

wherein the second component indirectly invokes one of the functions by requesting that

an interface manager invoke the function on behalf of the second component (page 9,

paragraph 91; page 17, paragraphs 151-152; page 22, paragraph 190), and wherein the

first component, second component, and interface manager execute within the network

device (i.e. within server computer 84) (page 10, paragraph 93; fig. 3);

receiving a request from the second component for a function in the first component via a

corresponding reference to the function pointer (page 9, paragraph 91; page 17,

paragraphs 151-152; page 21, paragraphs 187-188), wherein the request includes a

reference and a function parameter (page 16, paragraph 145); and

generating a response from the first component to provide the requested function result,

based on the function parameter, to the second component (page 28, paragraph 239; table

2).

10. Russell did not teach communication via a message queue. Dievendorff taught a similar

system comprising:

receiving a request via a message queue from the second component for a function in the

first component (col. 4, lines 2-10; col. 12, line 61-col. 13, line 10; col. 15, lines 56-63);

and

generating a response from the first component to provide the requested function result,

to the interface manager, thereafter the interface manager relaying the result to the second

component (col. 4, lines 2-10, 59-64).

11.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Russell and Dievendorff because Dievendorff's

teaching of communication via a message queue would increase the flexibility of Russell's

system by allowing messages to be sent to a message queue for processing by the server

application at a later time, thus the client and server applications need not be available

simultaneously. (col.4, lines 1-10).

12.   As per claim 15, Russell taught the invention substantially as claimed comprising:

        a server component configured with a plurality of functions and function pointers for the

        plurality of functions (page 2, paragraph 11; page 9, paragraphs 87-88) and configured to

        execute within the network device (i.e. within server computer 84) (page 10, paragraph

        93; fig. 3);

        a client component configured with references to the function pointers (page 16,

        paragraphs 145-146) and configured to execute within the network device (i.e. within

        server computer 84) (page 10, paragraph 93; fig. 3); and

        an interface manager configured to execute within the network device (i.e. within server

        computer 84) (page 10, paragraph 93; fig. 3) and configured to receive requests for

        functions from the client component and to invoke the requested functions on behalf of

        the client component from the server component via the function pointers (page 9,

        paragraph 91; page 16, paragraph 145; page 17, paragraphs 151-152; page 22, paragraph

        190).

13.   Russell did not teach communication via a message queue. Dievendorff taught a similar

system comprising:

>   an interface manager configured to receive requests for functions from the client
>
>   component via a message queue (col. 4, lines 2-10; col. 14, line 64-col. 15, line 6; col. 15,
>
>   lines 49-63; col. 16, line 60-col. 17, line 15).

14.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Russell and Dievendorff because Dievendorff's

teaching of communication via a message queue would increase the flexibility of Russell's

system by allowing messages to be sent to a message queue for processing by the server

application at a later time, thus the client and server applications need not be available

simultaneously. (col.4, lines 1-10).

15.   As per claims 2, 6 and 18, Russell and Dievendorff taught the invention substantially as

claimed in claims 1, 5 and 15 above. Russell further taught wherein configuring server

components with functionality and providing the interface methods comprises providing a table

of pointers for the functions (page 9, paragraphs 87-88).

16.   As per claims 3, 7-8 and 19, Russell and Dievendorff taught the invention substantially as

claimed in claims 2, 6 and 18 above. Russell further taught wherein providing a client

component with references to the interface methods comprising providing references to the table

of pointers (page 9, paragraphs 87-88; page 16, paragraphs 143, 145-146).

As per claims 4, 9 and 16-17, Russell and Dievendorff taught the invention substantially

as claimed in claims 3, 8 and 15 above. Russell further taught wherein processing client

component requests comprises generating requests from the client component for

functions from the server components by referencing the table of pointers for the

requested functions (page 9, paragraphs 87-88; page 16, paragraphs 143, 145-146) and

generating responses from the server component to provide the functions requested

through the table of pointers (page 28, paragraph 239; table 2).

17.   As per claims 10 and 20, Russell taught the invention substantially as claimed for a data-

over-cable network having a plurality of network stations, comprising:

providing a plurality of components in the network station, each of the plurality of

components having a functionality set and a table of pointers for the functionality set

(page 2, paragraph 11);

providing a station manager having references to the tables of pointers in the plurality of

components(page 16, paragraphs 145-146);

providing an interface manager for communication with the plurality of components and

the station manager, wherein the station manager indirectly invokes one of the

component functions by requesting that the interface manager invoke the function on

behalf of the station manager (page 9, paragraph 91; page 17, paragraphs 151-152; page

22, paragraph 190), and wherein the components, station manager, and interface manager

execute within the network device (i.e. within server computer 84) (page 10, paragraph

93; fig. 3); and

processing station manager requests for functionality from the plurality of components

through the interface manager via the references to the tables of pointers (page 16,

paragraphs 145-146).

18.   Russell did not teach communication via a message queue. Dievendorff taught a similar

system comprising:

providing an interface manager for communication via a message queue with the plurality

of components and station manager (col. 4, lines 2-10, 59-64).

19.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Russell and Dievendorff because Dievendorff's

teaching of communication via a message queue would increase the flexibility of Russell's

system by allowing messages to be sent to a message queue for processing by the server

application at a later time, thus the client and server applications need not be available

simultaneously. (col.4, lines 1-10).

20.   As per claims 11 and 21, Russell and Dievendorff taught the invention substantially as

claimed in claims 10 and 20 above. Russell further taught wherein processing station manager

requests comprising:

generating requests at the station manager for functionality through the references tables

of pointers and sending the requests for functionality to the interface manager (page 9,

paragraph 91; page 17, paragraphs 151-152; page 21, paragraph 187-188), wherein each

request includes a reference and a function parameter (page 16, paragraph 145);

receiving the requests for functionality at the interface manager and invoking the

functionality from the requested functionality sets via the table of pointers (page 9,

paragraphs 87-88; page 16, paragraphs 143, 145-146); and

providing the function parameter to the component (page 16, paragraph 148-page 17,

paragraph 149).

21.   Claims 14 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell

and Dievendorff in view of "Official Notice".

22.   As per claims 14 and 24, Russell and Dievendorff taught the invention substantially as

claimed in claims 11 and 20 above. Russell and Dievendorff did not specifically teach storing

data referenced by the pointers are stored in a shared memory area. However, Russell taught the

pointer is a data value that holds the address of an item in memory (page 9, paragraph 87).

"Official Notice" is taken that the concept of storing data in a shared memory area is well known

and accepted in the art. It would have been obvious to one having ordinary skill in the art at the

time of the invention was made to store data referenced by the pointers in a shared memory area

because by doing so would allowed shared access to the data referenced by the pointers to satisfy

the requests for functionality.

23.   Claims 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell and Dievendorff in view of Lomet et al, U.S. Patent 6,182,086 (hereinafter Lomet).

24.   Lomet was cited in the last office action.

25.   As per claims 12 and 22, Russell and Dievendorff taught the invention substantially as claimed in claims 11 and 20 above. Russell and Dievendorff did not specifically detailing the order of processing the requests. Lomet taught wherein the requests for functionality are processed serially by the interface manager (col. 8, lines 34-40).

26.   It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Russell, Dievendorff and Lomet because Lomet's means of processing would increased the reliability of Russell's and Dievendorff's systems by avoiding unpredictable results cause by reversing the serialization order of the requests (col. 8, lines 34-39).

27.   Claims 13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell, Dievendorff in view of Harchol-Balter et al, U.S. Patent 6,223,205 (hereinafter Harchol-Balter).

28.   Harchol-Balter was cited in the last office action.

29.   As per claims 13 and 23, Russell and Dievendorff taught the invention substantially as

claimed in claims 11 and 20 above. Russell and Dievendorff did not specifically detailing the

order of processing the requests. Harchol-Balter taught wherein the requests for functionality are

processed by the interface manager on a first-come first-served basis (col. 11, lines 46-52).

30.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Russell, Dievendorff and Harchol-Balter

because Harchol-Balter's means of processing would increased the fairness of Russell's and

Dievendorff's systems by allowing interface manager to process the requests from plurality of

processors for functionality in the order which the requests are received.

31.   Applicant's arguments with respect to claims 1-24, filed 06/13/05, have been fully

considered but are not deemed to be persuasive and are moot in view of the new grounds of

rejection.

32.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.   .

       Dievendorff et al, U.S. Patent 6,920,636, disclosed a system for flow control using

       message queues between client-server applications.

33.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

34.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this

final action. Any inquiry concerning this communication or earlier communications form the

examiner should be directed to Philip Lee whose telephone number is (571) 272-3967. Any

inquiry of a general nature or relating to the status of this application should be directed to the

Group receptionist whose telephone number is (703) 305-9600.

Philip Lee

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100